



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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November 12, 1993

Robert Hagen, Director  
Office of Surface Mining  
Reclamation and Enforcement  
505 Marquette N.W., Suite 1200  
Albuquerque, New Mexico 87102

Re: Revised Program Amendment on Highwall Retention, UT-10-FOR, In  
Response to 58FR 48600 of September 17, 1993

Dear Mr. Hagen:

Utah has reviewed the approval notice which was published in regard to the program amendment cited above and submits the enclosed proposed rule language in response to that notice. Please consider this letter and its enclosures as a revised program amendment.

We believe that the additional program requirements set out in the September 17, 1993 Federal Register notice are addressed in their entirety through this letter and its enclosures. We are providing you with the requested, revised, and clarified language to the appropriate sections of the Utah Administrative Code. As in previous submissions for UT-10-FOR, the revised language which is provided is not yet in final rule status, and upon your review and approval the proposed rule will be submitted for final rulemaking within the Utah administrative rulemaking system.

Thank you for your attention to this submission. If there is anything that I can do in the way of clarification or answering inquiries on the enclosed materials, please let me know. I have included the schedule for rulemaking which has previously been submitted with this amendment for your reference. The schedule has been updated to reflect recent activity action on this amendment.

Very truly yours

James W. Carter,  
Director

Enclosure  
cc: R. Lowrie  
P:HIGHWALL.RUL

State of Utah  
Division of Oil, Gas and Mining  
Revised Program Amendment Regarding Highwalls, UT-10-FOR  
November 12, 1993

\*\*\*Note: This submittal contains proposed rule changes. In Enclosure No. 1, new language is denoted by underlining and deleted language is denoted by ~~interlining~~.

R645-100-200. Definitions

"Highwall" means the face of exposed overburden and ~~[and/or]~~ coal in an open cut of [a] surface coal mining and reclamation activities or for entry to underground mining activities.

R645-301- 553. Backfilling and Grading.

Backfilling and grading design criteria must be described in the permit application. ~~[For the purposes of UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES - n]~~ Nothing in R645-301-553 will prohibit the placement of material in road and portal pad embankments located on the downslope, so long as the material used and the embankment design comply with the applicable requirements of R645-301-500 and R645-301-700 and the material is moved and placed in a controlled manner. For the purposes of SURFACE COAL MINING AND RECLAMATION ACTIVITIES rough backfilling and grading will follow coal removal by not more than 60 days or 1500 linear feet. The Division may grant additional time for rough backfilling and grading if the permittee can demonstrate, through a detailed written analysis under R645-301-542.200, that additional time is necessary.

553.100 Disturbed ~~[with]~~ areas will be backfilled and graded to:

553.110 Achieve the approximate original contour, except as provided in R645-301-553.600 through R645-301-553.642;

553.120 Eliminate all highwalls, spoil piles, and depressions, except as provided in R645-301-552.100 (small depressions); R645-301-553.620 (previously mined

highwalls); and in R645-301-553.650 (retention of highwalls);

- 553.130 Achieve a postmining slope that does not exceed either the angle of repose or such lesser slope as is necessary to achieve a minimum long-term static safety factor of 1.3 and prevents slides, except as provided in R645-301-553.523;
- 553.140 Minimize erosion and water pollution both on and off the site; and
- 553.150 Support the approved post mining land use.
- 553.200 Spoil and Waste. Spoil and waste materials will be compacted where advisable to ensure stability or to prevent leaching [ex] of toxic materials.
- 553.210 Spoil, except as provided in R645-301-537.200, for the purposes of UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES, and except excess spoil disposed of in accordance with R645-301.211, R645-301-212, R645-301-412.300, R645-301-512.210, R645-301-512.220, R645-301-514.100, R645-301-528.310, R645-301-535.100 through R645-301-535.130, R645-301-535.300 through R645-301-535.500, R645-301-536.300, R645-301-542.720, R645-301-553.240, R645-301-745.100, R645-301-745.300, R645-301-745-400, and will be returned to the mined out surface (UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES).
- 553.220 Spoil may be placed on the area outside the mined-out surface area (UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES) or mined-out area (SURFACE COAL MINING AND RECLAMATION ACTIVITIES) in nonsteep slope areas to restore the approximate original contour by blending the spoil into the surrounding terrain if the following requirements are met:
- 553.221 All vegetative and organic material will be removed from the area;
- 553.222 The topsoil on the area will be removed, segregated, stored, and redistributed in accordance with R645-301-232.100 through R645-301-232.600, R645-301-234, R645-301-242, and R645-301-243; and

- 553.223 The spoil will be backfilled and graded on the area in accordance with R645-301-537.200, R645-301-552 through R645-301-553.230, R645-301-553.260 through R645-301-553.420, R645-301-553.600, and R645-301-553.900.
- 553.230 Preparation of final graded surfaces will be conducted in a manner that minimizes erosion and provides a surface for replacement of topsoil that will minimize slippage.
- 553.240 The final configuration of the fill (excess spoil) will be suitable for the approved postmining land use. Terraces may be constructed on the outslope of the fill if required for stability, control of erosion, to conserve soil moisture, or to facilitate the approved postmining land use. The grade of the outslope between terrace benches will not be steeper than 2h:1v (50 percent).
- 553.250 Refuse Piles.
- 553.251 The final configuration for the refuse pile will be suitable for the approved postmining land use. Terraces may be constructed on the outslope of the refuse pile if required for stability, control of erosion, conservation of soil moisture, or facilitation of the approved postmining land use. The grade of the outslope between terrace benches will not be steeper than 2h:1v (50 percent).
- 553.252 Following final grading of the refuse pile, the coal mine waste will be covered with a minimum of four feet of the best available, nontoxic and noncombustible material, in a manner that does not impede drainage from the underdrains. The Division may allow less than four feet of cover material based on physical and chemical analyses which show that the requirements of R645-301-244.200 and R645-301-353 through R645-301-357 are met.
- 553.260 Disposal of coal processing waste and underground development waste in the mined-out surface area (UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES) or mined-out area (SURFACE COAL MINING AND RECLAMATION ACTIVITIES) will be in accordance with R645-301-210, R645-301-512.230, R645-301-513.400, R645-301-514.200, R645-301-515.200, R645-301-528.322, R645-301-528-320, R645-301-536 through R645-301-536.200, R645-301-

536.500, R645-301-536.900, R645-301-542.730, R645-301-553.250, and R645-301-746.100 through R645-301-746.200, except that a long-term static safety factor of 1.3 will be achieved.

- 553.300 Exposed coal seams, acid- and toxic-forming materials, and combustible materials exposed, used, or produced during mining will be adequately covered with nontoxic and noncombustible materials, or treated, to control the impact on surface and ground water in accordance with R645-301-731.100 through R645-301-731.522 and R645-301-731.800, to prevent sustained combustion, and to minimize adverse effects on plant growth and the approved postmining land use.
- 553.400 Cut-and-fill terraces may be allowed by the Division where:
- 553.410 Needed to conserve soil moisture, ensure stability, and control erosion on final-graded slopes, if the terraces are compatible with the approved postmining land use; or
- 553.420 Specialized grading foundation conditions, or roads are required for the approved postmining land use, in which case the final grading may include a terrace of adequate width to ensure the safety, stability, and erosion control necessary to implement the postmining land-use plan.
- 553.500 Previously mined areas, Continuously Mined Areas, and Areas Subject to the Approximate Original Contour Requirements.
- 553.510 Remining operations on previously mined areas or underground mining operations conducted prior to August 3, 1977, and continued after that date that contain a preexisting highwall will comply with the requirements of R645-301-537.200, R645-301-552 through R645-301-553.230, R645-301-553.260 through R645-301-553.900, and R645-302-234, except as provided in R645-301-553.500.
- 553.520 The requirements of R645-301-553.110 and R645-301-553.120, requiring ~~[that]~~ the elimination of highwalls, will not apply to remining operations or underground mining operations conducted prior to

August 3, 1977, and continued after that date where the volume of all reasonably available spoil is demonstrated in writing to the Division to be insufficient to completely backfill the reaffected or enlarged highwall. The highwall will be eliminated to the maximum extent technically practical in accordance with the following criteria:

- 553.521 All spoils generated by the remining operation or underground mining operation conducted before August 3, 1977, and continued after that date and any other reasonably available spoil will be used to backfill the area. Reasonably available spoil in the immediate vicinity of the remining operation or underground mining operation conducted before August 3, 1977, and continued after that date will be included within the permit area;
- 553.522 The backfill will be graded to a slope which is compatible with the approved postmining land use and which provides adequate drainage and long-term stability;
- 553.523 In applying the approximate original contour criteria of R645-301-553.650, a[A]ny highwall remnant or retained highwall will be stable and not pose a hazard to the public health and safety or to the environment. The operator will demonstrate, to the satisfaction of the Division, that the highwall remnant or retained highwall achieves a minimum long-term static safety factor of 1.3 and prevents slides, or provide an alternative criterion to establish that the highwall remnant or retained highwall is stable and does not pose a hazard to the public health and safety or to the environment; and
- 553.524 Spoil placed on the outslope during previous mining operations will not be disturbed if such disturbances will cause instability of the remaining spoil or otherwise increase the hazard to the public health and safety or to the environment.
- 553.600 Approximate Original Contour. Postmining slopes may vary from the approximate original contour only when:
- 553.610 Approval is obtained from the Division in accordance with R645-302-270;

- 553.620 Approximate Original Contour cannot be met and approval is obtained from the Division for incomplete elimination of highwalls in previously mined areas or continuously mined areas in accordance with R645-301-553.500; or
- 553.630 For the purposes of SURFACE COAL MINING AND RECLAMATION ACTIVITIES~~[, approval is obtained from the Division for mountaintop removal operations in accordance with R645-302-220 through R645-302-226.]:~~
- 553.631 Approval is obtained from the Division for mountaintop removal operations in accordance with R645-302-220 through R645-302-226.
- ~~[553.640 For the purposes of SURFACE COAL MINING AND RECLAMATION ACTIVITIES:]~~
- 553.~~[641]~~632 The standards for thin overburden in R645-301-553.700 are met~~[7]~~, or
- 553.~~[642]~~633 The standards for thick overburden in R645-301-553.800 are met.
- 553.650 ~~[For the purposes of UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES,~~ approval is obtained from the Division for retention of highwalls in accordance with R645-301-553.100; and] Prior to obtaining approval for the retention of a highwall the operator will establish, and the Division will find in writing, that the proposed highwall will achieve the stability requirements of Ut. Admin. R645-301-553.523 and that the proposed highwall will meet the approximate original contour criteria of R645-553.651 through R645-303-553.655 which include that:
- 553.651 The [~~u~~]retained[~~u~~] highwall is not [~~significantly~~] greater in height [~~or length~~] than the [~~dimensions of existing~~] cliffs [~~and~~] and cliff-like escarpments that were replaced or disturbed by the mining operations; [~~the surrounding area,~~]
- 553.652 ~~[The residual highwall is similar in structural composition to the preexisting cliffs in the surrounding area and is compatible with the visual attributes of the area; and]~~

The applicability of R645-301-553.651 through 553.655 is such that the standards for approximate original contour apply for any highwall created after December 13, 1982;

553.653 ~~[The residual highwall is compatible with the geomorphic processes of the area.]~~

The retained highwall will be modified if necessary to restore cliff-type habitats required by the flora and fauna existing prior to mining;

553.654 The retained highwall will be compatible with both the approved postmining land use and the visual attributes of the area; and

553.655 The ~~[residual]~~ retained highwall is compatible with the geomorphic processes of the area.



Comparison of Utah Rules to Federal Rules  
UT-10-FOR  
Revised November 12, 1993

30 CFR Ch. VII

Utah Admin.R645-

701.5 "Highwall" means the face of exposed overburden and coal in an open cut of a surface coal mining activity or for entry to underground mining activities.

817.102 Backfilling and grading: General Requirements.

817.102(a) Disturbed areas shall be backfilled and graded to-

817.102(a)(1) Achieve the approximate original contour,

R645-100-200. Definitions

"Highwall" means the face of exposed overburden and coal in an open cut of surface coal mining and reclamation activities or for entry to underground mining activities.

R645-301- 553. Backfilling and Grading. Backfilling and grading design criteria must be described in the permit application. Nothing in R645-301-553 will prohibit the placement of material in road and portal pad embankments located on the downslope, so long as the material used and the embankment design comply with the applicable requirements of R645-301-500 and R645-301-700 and the material is moved and placed in a controlled manner. For the purposes of SURFACE COAL MINING AND RECLAMATION ACTIVITIES rough backfilling and grading will follow coal removal by not more than 60 days or 1500 linear feet. The Division may grant additional time for rough backfilling and grading if the permittee can demonstrate, through a detailed written analysis under R645-301-542.200, that additional time is necessary.

553.100 Disturbed areas will be backfilled and graded to:

553.110 Achieve the approximate original contour,

except as provided in  
paragraph (k) of this section;

817.102(a)(2) Eliminate all  
highwalls, spoil piles, and  
depressions, except as  
provided in paragraph (h)  
(small depressions) and in  
paragraph (k)(3)(iii)  
(previously mined highwalls)  
of this section;

817.102(a)(3) Achieve a  
postmining slope that does not  
exceed either the angle of  
repose or such lesser slope as  
is necessary to achieve a  
minimum long-term static  
safety factor of 1.3 and to  
prevent slides;

817.102(a)(4) Minimize  
erosion and water pollution  
both on and off the site; and

817.102(a)(5) Support the  
approved postmining land use.

except as provided in R645-  
301-553.600 through R645-301-  
553.642;

553.120 Eliminate all  
highwalls, spoil piles, and  
depressions, except as  
provided in R645-301-552.100  
(small depressions); R645-301-  
553.620 (previously mined  
highwalls); and in R645-301-  
553.650 (retention of  
highwalls);

553.130 Achieve a postmining  
slope that does not exceed  
either the angle of repose or  
such lesser slope as is  
necessary to achieve a minimum  
long-term static safety factor  
of 1.3 and prevents slides,  
except as provided in R645-  
301-553.523;

553.140 Minimize erosion and  
water pollution both on and  
off the site; and

553.150 Support the approved  
post mining land use.

(553.200 - 553.420, no change  
except for a gramatical change  
at 553.252 which reads as  
follows)

553.252 Following final  
grading of the refuse pile,  
the coal mine waste will be  
covered with a minimum of four  
feet of the best available,  
nontoxic and noncombustible  
material, in a manner that  
does not impede drainage from  
the underdrains. The Division  
may allow less than four feet  
of cover material based on  
physical and chemical analyses  
which show that the  
requirements of R645-301-

817.106 Backfilling and grading: Previously mined areas.

817.106(a) Remining operations on previously mined areas that contain a preexisting highwall shall comply with the requirements of §§ 817.102 through 817.107 of this chapter, except as provided in this section.

817.106(b) The requirements of § 817.102(a)(1) and (2) requiring the elimination of highwalls shall not apply to remining operations where the volume of all reasonably available spoil is demonstrated in writing to the regulatory authority to be insufficient to completely backfill the reaffected or enlarged highwall. The highwall shall be eliminated to the maximum extent technically practical in accordance with the following criteria:

817.106(b)(1) All spoil generated by the remining operation and any other reasonably available spoil shall be used to backfill the

244.200 and R645-301-353 through R645-301-357 are met.

553.500 Previously Mined Areas, Continuously Mined Areas and Areas Subject to the Approximate Original Contour Requirements.

553.510 Remining operations on previously mined areas or underground mining operations conducted prior to August 3, 1977, and continued after that date that contain a preexisting highwall will comply with the requirements of R645-301-537.200, R645-301-552 through R645-301-553.230, R645-301-553.260 through R645-301-553.900, and R645-302-234, except as provided in R645-301-553.500.

553.520 The requirements of R645-301.110 and R645-301-553.120, requiring the elimination of highwalls, will not apply to remining operations or underground mining operations conducted prior to August 3, 1977, and continued after that date where the volume of all reasonably available spoil is demonstrated in writing to the Division to be insufficient to completely backfill the reaffected or enlarged highwall. The highwall will be eliminated to the maximum extent technically practical in accordance with the following criteria:

553.521 All spoils generated by the remining operation or underground mining operation conducted before August 3, 1977, and continued after that date and any other reasonably available spoil will be used to backfill the area.

area. Reasonably available spoil in the immediate vicinity of the remining operation shall be included within the permit area.

817.106(b)(2) The backfill shall be graded to a slope which is compatible with the approved postmining land use and which provides adequate drainage and long-term stability.

817.106(b)(3) Any highwall remnant shall be stable and not pose a hazard to the public health and safety or to the environment. The operator shall demonstrate, to the satisfaction of the regulatory authority, that the highwall remnant is stable.

817.106(b)(4) Spoil placed on the outslope during previous mining operations shall not be disturbed if such disturbances will cause instability of the remaining spoil or otherwise increase the hazard to the public health and safety or to the environment.

816.102(k) The postmining slope may vary from the

Reasonably available spoil in the immediate vicinity of the remining operation or underground mining operation conducted before August 3, 1977, and continued after that date will be included within the permit area;

553.522 The backfill will be graded to a slope which is compatible with the approved postmining land use and which provided adequate drainage and long-term stability;

553.523 In applying the Approximate Original Contour criteria of R645-301-553.650, any highwall remnant or retained highwall will be stable and not pose a hazard to the public health and safety or to the environment. The operator will demonstrate, to the satisfaction of the Division, that the highwall remnant or retained highwall achieves a minimum long-term static safety factor of 1.3 and prevent slides, or provide an alternative criterion to establish that the highwall remnant or retained highwall is stable and does not pose a hazard to the public health and safety; and

553.524 Spoil placed on the outslope during previous mining operations will not be disturbed if such disturbances will cause instability of the remaining spoil or otherwise increase the hazard to the public health and safety or to the environment.

553.600 Approximate Original Contour. Postmining slopes may vary from the approximate original contour only when:

approximate original contour  
when-

816.102(k)(3)(ii) A variance  
from approximate original  
contour requirements in  
accordance with § 785.16 of  
this chapter; or

816.102(k)(3)(iii) Incomplete  
elimination of highwalls in  
previously mined areas in  
accordance with § 816.106.

816.102(k)(3) Approval is  
obtained from the regulatory  
authority for-

816.102(k)(3)(i) Mountaintop  
removal operations in  
accordance with § 785.14 of  
this chapter;

816.102(k)(1) The standards  
for thin overburden in  
§ 816.104 are met;

816.102(k)(2) The standards  
for thick overburden in  
§ 816.105 are met; or

553.610 Approval is obtained  
from the Division in  
accordance with R645-302-270;

553.620 Approximate  
original contour cannot be met  
and approval is obtained from  
the Division for incomplete  
elimination of highwalls in  
previously mined areas or  
continuously mined areas in  
accordance with R645-301-  
553.500; or

553.630 For the purposes of  
SURFACE COAL MINING AND  
RECLAMATION ACTIVITIES:

553.631 Approval is obtained  
from the Division for  
mountaintop removal operations  
in accordance with R645-302-  
220 through R645-302-226.

553.632 The standards for  
thin overburden in R645-301-  
553.700 are met, or

553.633 The standards for  
thick overburden in R645-301-  
553.800 are met.

553.650 Prior to obtaining  
approval for the retention of  
a highwall the operator will  
establish, and the Division  
will find in writing, that the  
proposed highwall will achieve  
the stability requirements of  
Ut. Admin. R645-301-553.523  
and that the proposed highwall  
will meet the approximate  
original contour criteria of  
R645-553.651 through R645-303-  
553.655 which include that:

553.651 The retained highwall is not greater in height than the cliffs and cliff-like escarpments that were replaced or disturbed by the mining operations;

553.652 The applicability of R645-301-553.651 through 553.655 is such that the standards for approximate original contour apply for any highwall created after December 13, 1982;

553.653 The retained highwall will be modified if necessary to restore cliff-type habitats required by the flora and fauna existing prior to mining;

553.654 The retained highwall will be compatible with both the approved postmining land use and the visual attributes of the area; and

553.655 The retained highwall is compatible with the geomorphic processes of the area.

Utah Program Amendment UT-10-FOR, Highwalls  
Schedule for Rulemaking  
Revised November 12, 1992

April 30, 1992

DOGM submits proposed program amendments to OSM.

May 27, 1992

DOGM submits proposed program amendments to Board. Board will take no action until OSM indicates it is prepared to notice the proposed amendment.

June 2, 1992

OSM published proposed rule in the Federal Register.

September 10, 1992

OSM informs DOGM of needed revisions in proposed program amendment.

September 30, 1992

DOGM responds to OSM with revisions to proposed program amendment.

September 17, 1993

OSM approves the Utah submittal with exceptions and additional requirements with a deadline of 11/16/93. (58 FR, 48600)

November 12, 1993

Utah submits revised program amendment.

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OSM informs DOGM that it is prepared to approve the proposed program amendment as revised.

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Board initiates formal rulemaking regarding proposed rules (program amendment).

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End of comment period for formal rulemaking. Board adopts rules (program amendment).

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Approval of program amendment by OSM. Implementation by the State.

highwall.rul